IN THE CLAIMS

1. (Original) A passive optical network system comprising a central office, a local office, and a plurality of subscriber terminals, the central office and the local office being connected with each other through an optical fiber, the subscriber terminals being connected with the local office, the central office providing optical communication service to the subscriber terminals through the local office, the central office comprising:

a broadcasting optical source that outputs broadcasting optical signals that provide a broadcasting service to the subscriber terminals;

a pumping optical source that outputs pumping optical signals that amplify the broadcasting optical signals output from the broadcasting optical source;

a downstream optical source that outputs downstream optical signals that provide a downstream data service to the subscriber terminals;

an upstream optical receiver that receives upstream data service signals transmitted from the subscriber terminals and then converts the received signals into electric signals; and

a wavelength division multiplexer that multiplexes the broadcasting optical signals output from the broadcasting optical source, the pumping optical signals output from the pumping optical source, and the downstream optical signals output from the downstream optical source, such that the multiplexed signals are output, the wavelength division multiplexer filtering input upstream data service signals, such that the filtered signals are output to the upstream optical receiver.

2 -3. (Canceled)

4. (Original) A passive optical network system comprising a central office, a local office, and a plurality of subscriber terminals, the central office and the local office being connected to each other through an optical fiber, the subscriber terminals being connected to the local office, the central office providing optical communication service to the subscriber terminals through the local office, the central office comprising:

a plurality of broadcasting optical sources that output different wavelengths of broadcasting optical signals to provide multi-channel broadcasting service to the subscriber terminals;

a first wavelength division multiplexer that multiplexes the broadcasting optical signals output from the broadcasting optical sources;

a pumping optical source that outputs pumping optical signals to amplify the broadcasting optical signals output from the plurality of broadcasting optical sources;

a downstream optical source that outputs downstream optical signals to provide downstream data service to the subscriber terminals;

an upstream optical receiver which receives upstream data service signals transmitted from the subscriber terminals, such that the received signals are converted into electric signals; and

a second wavelength division multiplexer that multiplexes the broadcasting optical signals multiplexed by the first wavelength division multiplexer, the pumping optical signals output from the pumping optical source, and the downstream optical signals output from the downstream optical source, such that the multiplexed signals are output, the second wavelength division multiplexer filtering input upstream data service signals, such that the

filtered signals are output to the upstream optical receiver.

5-6. (Cancelled).

7. (Original) A passive optical network system comprising a central office, a local office, and a plurality of subscriber terminals, the central office and the local office being connected to each other through an optical fiber, the subscriber terminals being connected to the local office, the central office providing optical communication service to the subscriber terminals through the local office, the central office comprising:

a plurality of broadcasting optical sources that output different wavelengths of broadcasting optical signals to provide multi-channel broadcasting service to the subscriber terminals;

a first wavelength division multiplexer that multiplexes the broadcasting optical signals output from the broadcasting optical sources;

a pumping optical source that outputs pumping optical signals that amplify the broadcasting optical signals output from the broadcasting optical sources;

a plurality of downstream optical sources that output different wavelengths of downstream optical signals that provide downstream data service to the subscriber terminals;

a second wavelength division multiplexer that multiplexes the downstream optical signals output from the downstream optical sources;

an upstream optical receiver that receives upstream data service signals transmitted from the subscriber terminals, such that the received signals are converted into electric signals; and

a third wavelength division multiplexer that multiplexes the broadcasting optical signals

multiplexed by the first wavelength division multiplexer, the downstream optical signals multiplexed by the second wavelength division multiplexer, and the pumping optical signals output from the pumping optical source, such that the multiplexed signals are output, the third wavelength division multiplexer filtering input upstream data service signals, such that the filtered signals are output to the upstream optical receiver.

8-9. (Cancelled).

10. (Original) A passive optical network system comprising a central office, a local office, and a plurality of subscriber terminals, the local office and the central office being connected to each other through an optical fiber, the subscriber terminals being connected to the local office, the central office providing optical communication service to the subscriber terminals through the local office, the local office comprising:

a first wavelength division multiplexer that receives multiplexed signals including pumping optical signals from the central office, and divides downstream optical signals for downstream data service, broadcasting optical signals for broadcasting service and the pumping optical signals by demultiplexing the multiplexed signals, the first wavelength division multiplexer multiplexing upstream data service signals transmitted from the subscriber terminals;

an optical amplifier media that receives the broadcasting optical signals and the pumping optical signals from the first wavelength division multiplexer, such the broadcasting optical signals are amplified by the pumping optical signals;

a second wavelength division multiplexer that multiplexes the broadcasting optical signals amplified by the optical amplifier media and the downstream optical signals divided by

the first wavelength division multiplexer, the second wavelength division multiplexer demultiplexing the upstream data service signals transmitted from the subscriber terminals; and

an optical divider coupler that divides the multiplexed optical signals transmitted from the second wavelength division multiplexer, so as to distribute the divided signals to the subscriber terminals, the optical divider coupler coupling the upstream data service signals transmitted from the subscriber terminals.

11. (Original) The passive optical network system of claim 10, wherein the optical amplifier media is an erbium-doped fiber amplifier.

12 -14. (Canceled)